

SYSTEMS AND METHODS FOR SENSING AN ACOUSTIC SIGNAL USING  
MICROELECTROMECHANICAL SYSTEMS TECHNOLOGY

ABSTRACT OF THE DISCLOSURE

5           An acoustic system has an acoustic sensor and a processing circuit. The acoustic  
sensor includes a base, a microphone having a microphone diaphragm supported by the  
base, and a hot-wire anemometer having a set of hot-wire extending members supported  
by the base. The set of hot-wire extending members defines a plane which is  
substantially parallel to the microphone diaphragm. The processing circuit receives a  
10   sound and wind pressure signal from the microphone and a wind velocity signal from  
the hot-wire anemometer, and provides an output signal based on the sound and wind  
pressure signal from the microphone and the wind velocity signal from the hot-wire  
anemometer (e.g., accurate sound with wind noise removed). The configuration of the  
hot-wire extending members defining a plane which is substantially parallel to the  
15   microphone diaphragm can be easily implemented in a MEMS device making the  
configuration suitable for miniaturized applications.